

SEPTEMBER  
1947

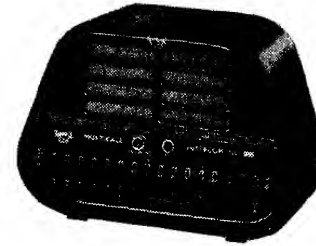
# SERVICE ELECTRICAL and RADIO CHARTS

TRADING

ARDENTE INTERCOMS  
EVER-READY MODEL C  
MULLARD MAS 305  
REGENTONE AW 66

## ARDENTE "INTERCOM" SYSTEMS

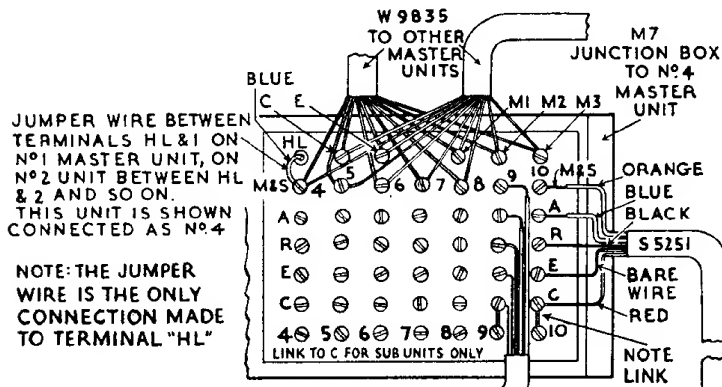
Comprehensive range of AC mains-operated loudspeaking intercom  
munication instruments for offices, factories, shops, hotels, restaurants, etc  
Made by Arden Acoustic Laboratories, Ltd., Compton, Guildford  
Surrey



### VALVE OPERATING CONDITIONS

Type	EF37	EL32	AZ31
Heater volts ..	6.3	6.3	4
Heater amps. ..	.2	.2	1.1
Anode volts ..	20	205	200-0-200
Anode m/a ..	1.1	20	AC
Screen volts ..	10	210	—
Screen m/a ..	.4	3.5	—
Cathode volts ..	1.5	15	220
Cathode m/a ..	1.5	23.5	25

Voltagages measured with a Universal Avometer  
Indicator lamps: 6.2V .3A, 15mm MES



JUNCTION BOX TERMINAL LETTER	CABLE	SUB UNIT TERM. Nº
M&S	ORANGE	2
A	BLUE	1
R	BLACK	6
E	BARE	3
C	RED	4

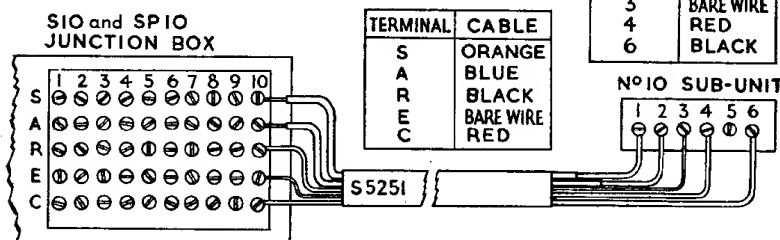
DIAGRAM SHOWS Nº4 MASTER  
UNIT IN A SYSTEM OF EIGHT MASTER  
UNITS. EACH STATION HAVING ONE  
OR TWO "PERSONAL" SUB UNITS  
CONNECTED TO POSITIONS 9&10

**M7** Diagram of  
connections for  
M7 installation,  
which provides  
from three to eight Master-  
units with intercom-  
munication, each  
Master having two to  
seven Sub - units.  
Right: cable colour  
code for the M7  
installation

Terminal	Cable	Terminal	Cable
C ..	Red	4* ..	Slate
E ..	White	5* ..	Red-blue
M1 ..	Green	6* ..	Red-white
M2 ..	Black	7* ..	Red-orange
M3 ..	Brown	8* ..	Red-green

\* If any used for Sub-unit, do not connect multi-  
way cable.

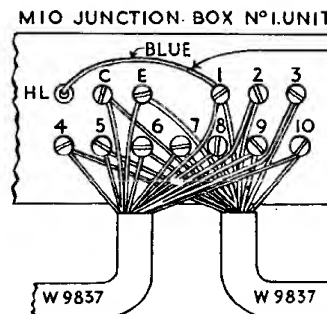
JUNCTION BOX TERMINAL NUMBERS CORRESPOND  
TO THOSE ON SELECTOR SWITCH DIAL



**S10, SP10** Connection diagram for the Selectacall which comprises  
one Master unit with up to 10 Sub-units, which can be called  
individually or collectively

TERMINAL	CABLE
C	RED
E	WHITE
1	GREEN
2	BLACK
3	BROWN
4	SLATE
5	RED-BLUE
6	RED-WHITE
7	RED-ORANGE
8	RED-GREEN
9	RED-BLACK
10	RED-BROWN
SPARE	RED-SLATE
	BLUE-WHITE
	BLUE-ORANGE

**M10** "All Master-  
unit" system  
with complete  
intercommunication be-  
tween 10 points—that is,  
five separate conversa-  
tions simultaneously.  
Right: the cable colour  
code



JUMPER WIRE  
BETWEEN TER-  
MINALS HL&1  
ON Nº1 UNIT,  
ON Nº2 UNIT  
BETWEEN HL&  
2, AND SO ON

Terminal	Cable	Terminal	Cable
C ..	Red	7 ..	Red-orange
E ..	White	8 ..	Red-green
1 ..	Green	9 ..	Red-black
2 ..	Black	10 ..	Red-brown
3 ..	Brown	SPARE ..	Red-slate
4 ..	SLATE	SPARE ..	Red-white
5 ..	Red-blue	SPARE ..	Red-orange
6 ..	Red-white		

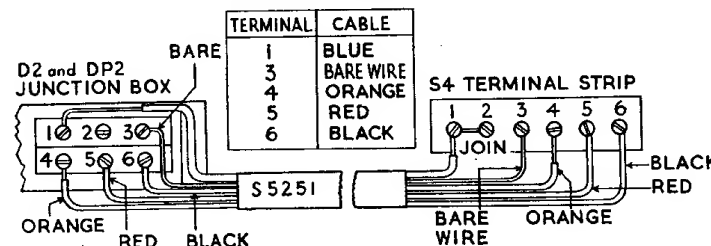
### DESCRIPTION

**Supply Voltage.** All Master units are made for  
operation on 200-240V, 50 c/s (25W). Units  
can be made to order for 100-120V. Sub-units  
do not require any mains connections. If DC  
only is available, then a rotary converter, of  
suitable capacity according to the number of Master  
units, must be used.

**Cabling.** All Sub-units (S4 and S5) are  
connected to the various Master units by one type of  
5-core cable: S.5251. This cable must be used,  
and not ordinary bell wire, to avoid hum and  
interference. Runs up to 500 yards may be used.

Master units of all types are inter-connected  
with each other by three different types of multi-  
core cable, according to the system, as follows:  
W.9835, 10-way for M7; W.9845, 35-way for  
M30; W.9837, 15-way for M10.

These cables are not shielded, and in the event  
of a smaller number of Masters being required in



**D2** Simplest of all installations, the D2 consists of one  
Master- and one Sub-unit. Sub-unit can call Master.  
Further version, DP2, provides a privacy switch  
at the Sub-unit

the complete installation, then a cable with a smaller number of conductors may be used, it being borne in mind that there must always be a basic pair, plus one wire for each Master in the system, i.e., for three Master stations a five-way cable is necessary. Cable-runs up to 1,500 yards in a system may be used.

**Cabinets.** All cabinets, for both Sub- and Master-units, are the same size, and are made of black bakelite. Overall dimensions are 12 in. wide by 8 in. high by 5½ in. deep.

**Volume Control.** Each Master is provided with a volume control, which, in the case of models M7, M10 and M30, operates on incoming speech only, and, in the case of models D2, DP2, S10 and SP10, operates on incoming and outgoing speech.

**Privacy Earphones.** All Masters may be fitted, at extra charge, with a hookswitch and a privacy earphone, so that replies are not audible in the room when the earphone is removed from its hook.

**"Busy" and "Call Waiting" Lamps.** These are fitted to all Master units, except D2 and DP2, indicating whether another unit is engaged when calling, and indicating to the called unit, who may be engaged in conversation with someone else, that a call is waiting.

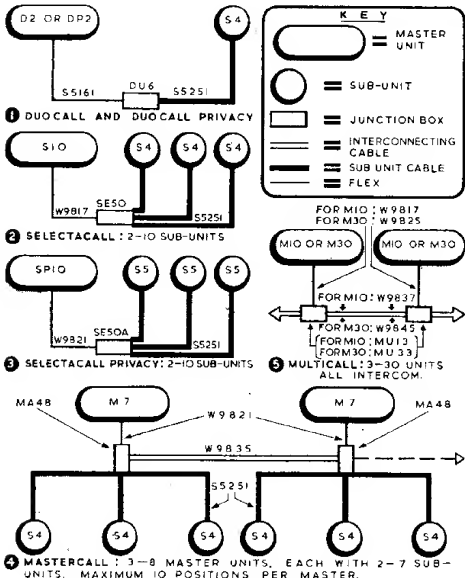
**Conference Facilities.** Up to five Master units may hold full conference facilities on the M30 system only.

**Valves.** The valves used in the Master-unit amplifiers are: first stage, one Mullard EF37 (or EF36); output stage, one Mullard EL32 and one Mullard AZ31 rectifier.

**INSTALLATION**

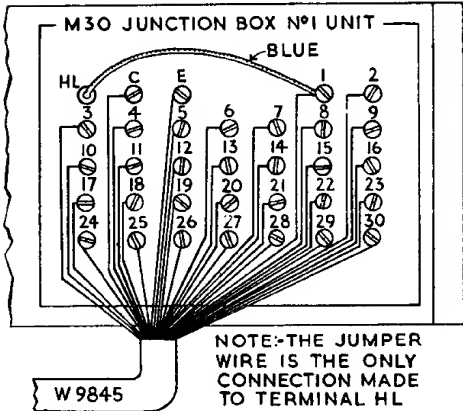
Layout plans of the various system, showing the cabling used, are given in the diagrams.

Do not attempt to operate a Master-unit and a



Schematic wiring plans showing how Master- and Sub-units are related in the different Ardenite installations

JUMPER WIRE BETWEEN TERMINALS HL & 1 ON N°1 UNIT, ON N°3 UNIT BETWEEN HL & 3 AND SO ON



M30 Connection diagram for the most comprehensive system with full intercommunication between 30 Masters. Below: colour code.

Terminal	Cable	Terminal	Cable
C	Red	17	Blue-slate
E	White	18	White-orange
1	Green	19	White-green
2	Black	20	White-black
3	Brown	21	White-brown
4	Slate	22	White-slate
5	Red-blue	23	Orange-green
6	Red-white	24	Orange-black
7	Red-orange	25	Orange-brown
8	Red-green	26	Orange-slate
9	Red-black	27	Green-black
10	Red-brown	28	Green-brown
11	Red-slate	29	Green-slate
12	Blue-white	30	Black-brown
13	Blue-orange	Spare	Black-slate
14	Blue-green	Spare	Brown-slate
15	Blue-black	Spare	Red-white-blue
16	Blue-brown		

Sub-unit or two Master-units in the same room, or where there is a short acoustic path between two adjacent units. Otherwise howl, due to feedback, will be set up.

When connecting Masters and Subs, a wire of a certain colour connects to terminals of the same number throughout. Make sure that shielding on blue and orange wires does not "short" any terminals.

**OPERATION**

Operation is similar with all systems, in that each Master has a spring-loaded "Press-to-Talk" key, which must be held down while speaking and released in order to hear the reply.

Sub-units, type S4, do not have to manipulate switch at all, either when speaking or listening, but only have to depress a switch when they wish to initiate a call to the Master unit, or, in the case of type S5, when the switch has to be set to "Reply" at the beginning of a conversation.

Master units may be left switched on all day without any fear of over-heating. As consumption is low (25W per Master-unit) even a large system, with the full number of 30 units, is economical to run.

Groping and rule of thumb methods are out of date — the times call for accuracy and speed in servicing.

Have the facts given to you simply with this complete instrument — for which you will find a use at every turn of your day-to-day work. The Hunt Capacitance and Resistance Analyser is a high grade precision instrument developed by specialists in Capacitor design and manufacture — hence it is practical in conception and complete in application, a master instrument in every respect.

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**MEASURES** capacity, power factor, resistance, insulation resistance. **DETECTS** defective capacitors. **TESTS** continuity, etc.

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Rating: 210-250 v. A.C. 50 cycles.

Dimensions: 6½" x 9½" x 5"

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